

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): An abnormal shadow detecting method comprising the steps of

detecting primary prospective abnormal shadow regions in images of objects by

different kinds of detecting processes, determining whether or not the respective primary
prospective abnormal shadow regions are of a desired abnormal shadow by methods different
from each other according to the kinds of processes by which the respective primary prospective
abnormal shadow regions are detected, and

outputting as final prospective abnormal shadow regions only primary prospective
abnormal shadow regions which are determined to be of a desired abnormal shadow.
2. (original): An abnormal shadow detecting method as defined in Claim 1 in which
whether or not the respective primary prospective abnormal shadow regions are of a desired
abnormal shadow is determined on the basis of a combination of a plurality of characteristic
values for the respective primary prospective abnormal shadow regions predetermined by the
kinds of processes by which the respective primary prospective abnormal shadow regions are
detected.
3. (original): An abnormal shadow detecting method as defined in Claim 2 in which
whether or not the respective primary prospective abnormal shadow regions are of a desired

abnormal shadow is determined on the basis of Mahalanobis distances in the plurality of characteristic values.

4. (original): An abnormal shadow detecting method as defined in Claim 1 in which the object is a breast.

5. (original): An abnormal shadow detecting system comprising
a primary prospective region detecting means which detects primary prospective abnormal shadow regions in images of objects on the basis of image data representing the images of the objects by different kinds of detecting processes,

a determining means which determines whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow by methods different from each other according to the kinds of processes by which the respective primary prospective abnormal shadow regions are detected, and

a final prospective abnormal shadow region outputting means which outputs as final prospective abnormal shadow regions only primary prospective abnormal shadow regions which are determined to be of a desired abnormal shadow.

6. (original): An abnormal shadow detecting system as defined in Claim 5 in which whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow is determined on the basis of a combination of a plurality of characteristic values for the respective primary prospective abnormal shadow regions predetermined by the

kinds of processes by which the respective primary prospective abnormal shadow regions are detected.

7. (original): An abnormal shadow detecting system as defined in Claim 6 in which whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow is determined on the basis of Mahalanobis distances in the plurality of characteristic values.

8. (original): An abnormal shadow detecting system as defined in Claim 5 in which the object is a breast.

9. (currently amended): A computer-readable medium storing a program for causing a computer to execute an abnormal shadow detecting process comprising the steps of

detecting primary prospective abnormal shadow regions in images of objects by different kinds of detecting processes,

determining whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow by methods different from each other according to the kinds of processes by which the respective primary prospective abnormal shadow regions are detected, and

outputting as final prospective abnormal shadow regions only primary prospective abnormal shadow regions which are determined to be of a desired abnormal shadow.

10. (new): The abnormal shadow detecting method as defined in Claim 1, wherein the different kinds of detecting processes are at least two detecting processes.

11. (new): The abnormal shadow detecting method as defined in Claim 10, wherein the at least two detecting processes comprise either two of an iris filter process, a contrast detecting process, an asymmetry detecting process, and a spicule detecting process.

12. (new): The abnormal shadow detecting method as defined in Claim 1, wherein the different kinds of detecting processes comprise a process for detecting a growth shadow region, a process for detecting a prospective category three growth shadow region, a process for detecting a prospective asymmetric shadow region, and a process for detecting a prospective spicule region.

13. (new): The abnormal shadow detecting method as defined in Claim 1, wherein the different kinds of detecting processes comprise

a process for detecting a growth shadow region in which convergence of density gradients in an image of an object is calculated by the use of an iris filter and a prospective growth shadow region is detected by extracting a region where the convergence of the density gradients is high,

a process for detecting a prospective category 3 growth shadow region by extracting a region where a contrast is high and a boundary is clear,

a process for detecting a prospective asymmetric shadow region in which left and right mammary gland distributions are compared with each other and a prospective asymmetric

shadow region is detected by extracting regions where the left and right mammary gland distributions are not symmetric, and

a process for detecting a prospective spicule region in which convergence of lines in a lineation is calculated and a prospective spicule region is detected by extracting a region where a convergence of the lines is high.

14. (new): The abnormal shadow detecting method as defined in Claim 10, wherein the at least two detecting processes comprise an iris filter process and any one of a contrast detecting process, an asymmetry detecting process, and a spicule detecting process.